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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/502,899	02/11/2000	Robert Bennett Stout JR.	ADDS:017/KRE	5856

7590 06/20/2006

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EXAMINER	
SHAPIRO, JEFFERY A	

ART UNIT	PAPER NUMBER
3653	

DATE MAILED: 06/20/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/502,899	STOUT ET AL.	
	Examiner	Art Unit	
	Jeffrey A. Shapiro	3653	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *22 November 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,3-21,23-40,42-45 and 47-50* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,3-21,23-40,42-45 and 47-50* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

13)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

a) ☐ The translation of the foreign language provisional application has been received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 2/16/06 has been entered.

Claim Rejections - 35 USC § 103

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

3. Claims 1, 3-12, 16-21, 23-32, 37-41, 42-45 and 47-50 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zinsmeyer US 5,163,586 in view of Schroeder et al (US 6,535,795 B1) and further in view of Leatherman et al '629.

Zinsmeyer '586 discloses the fuel additive dispensing system as described in Claims 1 and 21, including a housing (1) adapted to be affixed to a fuel dispenser having a fuel dispensing hose, a hydraulic module (23, 26, 27 and 32-34), disposed at least partially within said housing having a fluid input adapted to be coupled to at least one source of fuel additive (25 and 28-30) and a fluid output adapted to be coupled to said fuel dispensing hose (20-22) to introduce said additive into a stream of fuel delivered through said fuel dispensing hose, control circuitry (2 and 4), coupled to said hydraulic module, for generating electrical control signals applied to said hydraulic

module to cause a controlled amount of said additive to be released from said at least one source to flow through said fluid input and fluid output and into said fuel dispensing hose during a particular fuel dispensing event.

Zinsmeyer further discloses at least one sensor, coupled to said control circuitry and to said hydraulic module, for acquiring data reflecting actual operation of said hydraulic module during a plurality of successive fueling transactions. Zinsmeyer discloses such sensors in the form of flowmeters (20, 22, or 32-34). Zinsmeyer, col. 3, lines 12-28, for example, states in part "a" that the controller "monitors the existing fuel dispenser system to detect which fuel has been selected by the customer and the fuel flow rate in real time." This action requires a sensor to sense the fuel flow of fluid through such as a flow meter. As this flow meter is connected to the controller (4), which receives information in real time during the fuel dispensing operation, it is construed that data is acquired reflecting actual operation of said hydraulic module over time—the time it takes to perform the dispensing operation. See col. 5, lines 32-36.

Zinsmeyer further discloses processing circuitry (2 and 4), coupled to said at least one sensor, for comparing said data reflecting actual operation of said hydraulic module during said plurality of successive fueling transactions with data corresponding to target operation of said hydraulic module. Note that the controllers (2 and 4) are construed as processing circuitry, coupled to one sensor in the form of flow meters (20, 22 and 32-34), and compares data over time with data corresponding to target operation of the system—an additive mix ratio as well as information as to which fuel is

selected, the rate of fuel flow, or a preset amount of fuel either by volume or cash designation. See col. 5, lines 36-49.

Zinsmeyer further discloses that said controlled amount of additive is determined based upon said comparison of data reflecting actual operation of said hydraulic module during a fueling transaction with said preset mix ratios described in col. 5, line 43 corresponding to target operation of said hydraulic module. See also col. 5, lines 32-49 as well as Zinsmeyer Claim 1. Note also, Zinsmeyer Claim 5, col. 8, lines 40-43, describing said fuel dispenser computer displaying a total measure of volume and cost of delivered fuel, which may further be construed as data reflecting actual operation of said hydraulic module.

Zinsmeyer does not expressly disclose, but Schroeder discloses an adaptive control system for use in a chemical additive system that utilizes historical data, statistical data, and current data to effectuate optimization of a "hydraulic module". See Schroeder, col. 14, lines 50-65. Such variables as sensed temperature or composition versus flow and pressure are "compared". See Schroeder, col. 13, lines 20-40. Schroeder explicitly mentions the use of this chemical additive system in the addition of fuel additives. See col. 8, lines 24-28. "Sensor objects" (25) compile historical and statistical knowledge of processes through "intelligent software objects (ISO's). ISO's are provided inputs from "real world devices (100) that include instrumentation such as sensors. See Schroeder, col. 3, line 50-col. 4, line 11. "Sensor objects (2) "retain data" sensed by sensors during a particular event and are interpreted to store data over plural events, as suggested by the use of the term "historical data" throughout the disclosure.

ISO's are connected to and run by input from expert systems (12) that "can remember by storing data regarding their own operation." See col. 7, lines 9 and 10. Expert system (12) compares past, present and predicted data and variables. See col. 7, lines 24-27. See also col. 5, lines 5-32 and col. 7, line 55-col. 8, line 8.

Zinsmeyer, Leatherman and Schroeder are considered analogous art because they both concern control of fluid dispensing devices.

At the time of the invention, it would have been obvious to one of ordinary skill in the art to have used the adaptive control system of Schroeder to control Zinsmeyer's additive blending hydraulic modules by comparing historical data, statistical data and current data regarding operating parameters of Zinsmeyers hydraulic modules.

The suggestion/motivation would have been to "reduce product variances" of the final fuel product after adding additives to Zinsmeyer's fuel. See Schroeder, col. 8, lines 24-28.

Zinsmeyer does not expressly disclose, but Leatherman discloses a graphics based, internet based fuel dispenser having the following.

As described in Claims 1 and 21, processing circuitry maintaining billing information for the fuel dispensing event, and a network connection (30) coupled to the processing circuitry, the network adaptively coupled to a point-of-sale system, the network transmitting billing information to the point-of-sale system. See Leatherman, col. 1, lines 11-20, which states that most modern fuel dispensers are point-of-sale systems having card readers and other means of payment. Leatherman, col. 4, lines

18-45 further describe a server and control system (18) connected to the point-of-sale system by network (30), with lines 38-45 describing several payment means.

As described in Claims 8 and 28, a graphic display viewable by a user of said fuel dispenser (38), as described in Claims 9 and 29, at least one user-actuable control (40 and 32) for activating said dispensing system to dispense said fuel additive into said stream of fuel and, as described in Claims 16 and 36, said graphic display (38) responsive to said control circuitry to display a plurality of separate images thereon. Leatherman further discloses, as described in Claims 41 and 46, that these graphical user interfaces are connected to the internet or act as a "client" of a local server at the fuel station store. See Leatherman, col. 2, lines 45-51. Leatherman further discloses

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to have integrated the computer based, internet based, graphics interface system of Leatherman with the fuel dispenser of Zinsmeyer.

The suggestion/motivation for doing so would have been to improve customer and user interface with the system. See abstract of Leatherman and note Zinsmeyer is a fuel dispenser inherently used at a point of sale (a gas station) with routine access to customers.

At the time of the invention, it would have been obvious to one of ordinary skill in the art to have also used Zinsmeyer's network to transmit billing information to be stored/maintained in said processing circuitry.

This is suggested in part by Zinsmeyer's mention at col. 5, lines 4-7, that "the fuel dispenser computer may be connected...to interact with...a remote operator terminal

and other modern service station transaction equipment." Such transaction equipment includes the card readers and other forms of payment equipment Leatherman mentions. It is well-known that fuel dispensers that take credit cards, smart cards, etc. need networks to transmit billing data and to perform credit transactions. It also would have been obvious that billing data would have been stored in appropriate memory means, such as Zinsmeyer's computers (2 or 4). Zinsmeyer's suggestion, taken with Leatherman's teaching for connecting a network to Zinsmeyer's fuel dispensers, would have led one ordinarily skilled to have used such a network for billing transaction data transmission.

Regarding Claims 3 and 23, note that it would have been obvious that said fuel dispenser (1) would have an input and output flow control manifold, as is widely known in the art. Otherwise, Zinsmeyer's system would not work as disclosed.

Regarding Claims 4 and 24, Zinsmeyer further discloses that said hydraulic module further comprises a flow meter (23 and 26) coupled to said control circuitry for monitoring the flow of additive through said hydraulic module.

Regarding Claims 5 and 25, Zinsmeyer's hydraulic module can be construed to operate to dispense said additive with an accuracy of at least ***approximately*** 0.75%. Such accuracy is well known to those ordinarily skilled in modern fuel dispensing digital control art and well within the means of performance of typical computer control dispensing devices. See Column 2, lines 4-24, noting in particular that the device of Zinsmeyer has accuracy of 0.4%, as is typically required by regulators.

Regarding Claims 6 and 26, note that it is clear that Zinsmeyer's system releases a controlled amount of additive in at least one increment into a stream of fuel.

Regarding Claims 7 and 27, it appears clear that Zinsmeyer's system releases a controlled amount of additive each time a predetermined amount of fuel is delivered through said fuel dispensing hose;

Regarding Claims 10 and 30, it appears clear that Zinsmeyer's system has at least one source of fuel additive (28-30) that is external to said housing-see figure 1, for example.

Regarding Claims 11 and 31, note that it appear clear from Zinsmeyer 's disclosure, that said controlled amount of said additive is an amount proportional to a total amount of fuel in said stream of fuel.

Regarding Claims 12 and 32, note that in Zinsmeyer's system, said controlled amount of said additive is an amount specified by a user of said fuel dispenser. Note that the operator of Zinsmeyer's system could be construed as a user of said fuel dispenser.

Regarding Claims 17 and 37, Zinsmeyer's system has a user interface (3) coupled to said control circuitry, wherein said control circuitry is responsive to a selection signal generated by said control circuitry to initiate dispensation of said fuel additive. Note that said fuel additive is automatically dispensed with the fuel as the fuel is requested, as is again clear from Zinsmeyer's disclosure.

Regarding Claims 18 and 38, note that Zinsmeyer's user interface is responsive to user interaction to generate said selection signal, otherwise, it would not work as disclosed.

Regarding Claims 19 and 39, note that Zinsmeyer's user interface has to be responsive to said user interaction occurring prior to said stream of fuel being delivered through said fuel dispensing hose to generate said selection signal, otherwise, it would not work as disclosed.

Regarding Claims 20 and 40, Zinsmeyer's user interface is not expressly disclosed as being responsive to user interaction occurring while said stream of fuel is being delivered through said fuel dispensing hose to generate said selection signal. However, although said user input does not occur during delivery of said stream of fuel, it is considered a matter of design choice as to when to input the additive into the stream, either before, after or during the delivery of the fuel, depending upon whether it is necessary for the additive to be mixed before delivery of the fuel or simply added to an automobile fuel system. Zinsmeyer's system is adapted to mix additive at anytime during or after the flow of fuel from pump (24), since additive pumps (26) may be operated independently of fuel pump (24). It would have been obvious to one ordinarily skilled that providing the ability for a customer to cause delivery of an additive at any time during the fuel transaction or even after would increase sales and throughput of product, since the additive is made more readily available to a customer for an impulse purchase.

Regarding Claims 42-44 and 47-49, Zinsmeyer's system clearly dispenses fuel and said fuel additive in a single integrated transaction, in which a predetermined amount of said additive is dispensed, the amount of additive dispensed being proportional to the amount of said fuel dispensed. Again, see col. 3, lines 12-28.

Regarding Claims 45 and 50, Zinsmeyer's system has control circuitry responsive to at least one signal from said retail point-of-sale system to disable said fuel additive dispensing system. See Zinsmeyer Claim 5.

4. Claims 13-15 and 33-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zinsmeyer in view of Schroeder, and further in view of Leatherman, and still further in view of Comer et al (US 5,596,501).

Zinsmeyer discloses the fuel dispenser as described above. Zinsmeyer does not expressly disclose, but Comer discloses a fuel dispenser having, as described in Claims 13 and 33, a proximity detector (75), coupled to said control circuitry, for detecting the presence of a person in the vicinity of said system. Comer further discloses, as described in Claims 14 and 34, that said proximity detector (75) applies a detection signal to said control circuitry upon detection of a person in the vicinity of said system.

Regarding Claims 15 and 35, note that it would be expedient for one ordinarily skilled in the art to cause a predetermined image as taught and disclosed in Leatherman to be displayed on Zinsmeyer's fuel dispenser display based upon the detection of a customer at the fuel dispenser.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to have used a proximity detector such as that used by Comer et al in the fuel dispenser of Zinsmeyer.

The suggestion/motivation for doing so would have been to detect the presence of a customer. See abstract of Comer et al.

It further would have been obvious to cause Zinsmeyer's fuel dispenser display to display a particular image to be displayed upon detection of an individual in the presence of the dispenser.

The suggestion/motivation for doing so would have been to cause advertising to appear to entice customers upon their arrival at the fuel pump. See Leatherman, col. 2, line 66-col. 3, line 22.

Response to Arguments

5. Applicant's arguments filed 3/15/06 have been fully considered but they are not persuasive.

Despite Applicant's amendments to the claims, Zinsmeyer is still construed to read on Applicant's claims, as described above. Zinsmeyer concerns mixing of fuel additives. Even if it can be argued that Zinsmeyer concerns the mixing of fuel components, the structure of Zinsmeyer's additive hydraulic module remains the same as Applicant's claimed system. Newly cited Schroeder discloses an adaptive control system for use in a fuel additive mixing environment that uses comparison of present, predicted and past data to adaptively control a hydraulic module. Therefore, with Schroeder's teaching of using such an adaptive control system for fuel additive

dispensing and blending systems, it would have therefore been obvious to control Zinsmeyer's fuel dispenser with Schroeder's adaptive control system.

In regards to new claim amendments to Independent Claims 1 and 21, note that Leatherman teaches using a network connecting a point-of-sale device in the form of a fuel dispenser with other components of the fuel transaction system. Also, it is well-known that credit cards require networks to complete transactions, for example, to determine if a customer qualifies for a particular purchase, and, that billing transaction information must be stored in memory, otherwise there is no way to account for customer transactions.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeffrey A. Shapiro whose telephone number is (571)272-6943. The examiner can normally be reached on Monday-Friday, 9:00 AM-5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gene O. Crawford can be reached on (571)272-6911. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JAS

June 12, 2006

GENE O. CRAWFORD
SUPERVISORY PATENT EXAMINER